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60,426-268 (97P7720US03)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS: Oestreicher et al. ART UNIT: 3661
SERIAL NO.: 09/810,943 EXAMINER: Pipala, E.
FILED: March 16, 2001
FOR: A METHOD AND SYSTEM FOR DETERMINING WEIGHT
AND POSITION OF A VEHICLE SEAT OCCUPANT

ATTORNEY DOCKET NO: 60,426-268 (97P7720US03)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE

Dear Sir:

In response to the Office Action of December 2, 2003, Applicant requests consideration of the following arguments.

Claims 36-73 remain in the application including independent claims 36, 39, 41, 49, and 56. Claims 36-40 have been copied from U.S. Patent No. 6,039,344. Claims 56 and 57 are allowed. Claims 58-60 and 66-68 are indicated as allowable if rewritten in independent form to include all of the limitations of the base claim and any intervening claims.

Claims 36-55 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Research Disclosure 39916 in view of Gagnon (US5810392), and further in view of Harris (US 3661220).

First, as Applicant has previously argued, Harris is non-analogous art. The test for analogous art is first whether the art is within the field of the inventor's endeavor and, if not, whether the art is reasonably pertinent to the problem with which the inventor was involved. In

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re Wood, 599 F.2d 1032, 1036, 22 USPQ 171, 174 (CCPA 1979). Harris is not in the field of Applicant's endeavor and is not pertinent to any particular problem with which Applicant was concerned.

The examiner argues that Harris is analogous art because "Harris does refer to the weighting device relating to the vehicle and does suggest the load cell system having a strain gauge mounting assembly (see at least the abstract)." Thus, the examiner seems to be arguing that Harris satisfies the first part of the test for analogous art, i.e. satisfies the requirement that the art is within the field of the inventor's endeavor. Applicant disagrees.

Harris, which discloses a load cell system for determining a payload weight of logs on a logging truck, clearly is not within the field of determining weight and position of vehicle seat occupant, which is the subject to which the Applicant's invention is directed. Applicant's and Harris' sensor systems have drastically different design objectives and operate in very different environmental conditions. Sensor systems for determining and continuously monitoring occupant weight and position are not related to, i.e. have no relevance to sensors systems that measure the weight of a pile of logs loaded onto a logging truck.

Further, Harris does not satisfy the second part of the test for analogous art, i.e. Harris does not logically commend itself to the attention of an inventor seeking to solve problems with accurately measuring seat occupant weight and determining seat occupant position. A reference is reasonably pertinent if, even though it may be in a different field of endeavor, it logically would have commended itself to an inventor's attention in considering his problem because of the subject matter with which it deals. See In re Clay, 966 F.2d 656, 659, 23 USPQ2d 1058, 1061 (Fed. Cir. 1991).

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Applicant was seeking to provide a more accurate and very sensitive weight measuring system that could clearly identify when a very small child or infant in a car seat was seated in the passenger seat so that air bag deployment could be shut off or deployed at a significantly smaller deployment force. Harris was specifically seeking to provide a heavy-duty load determining system for logging trucks that could be subjected to rough, unimproved roads, and which could accurately measure several thousand pounds of logs so that each trailer can be loaded to the maximum capacity without exceeding regulatory load restrictions. Thus, the problems that Applicant was seeking to solve were very different than those of Harris.

Second, even assuming that Harris is analogous art, there mere fact that the prior art Research Disclosure and Gagnon structures could be modified does not make such modifications obvious unless the prior art suggests the desirability of doing so. In Applicant's previous response, Applicant detailed several arguments as to why there was no suggestion or motivation to modify the Research Disclosure with either Gagnon or Harris.

In response, the examiner argues that it is not "necessary that the references actually suggest, expressly or in so many words, the changes or improvements that application has made" and that the "test for combining references is what the references as a whole would have suggested to one of ordinary skill in the art." In previous responses, Applicant has set forth specific arguments detailing why there is no suggestion to modify the Research Disclosure with Harris or Gagnon. The examiner has not responded to any of these arguments, other than with the generalized statement set forth above.

Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion, or incentive supporting the

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combination. The extent to which such suggestion must be explicit in, or may be fairly inferred from, the references, is decided on the facts of each case, in light of the prior art and its relationship to the applicant's invention. It is impermissible to simply engage in a hindsight reconstruction of the claimed invention, using the applicant's structure as a template and selecting elements from references to fill in the gaps. The references themselves must provide some teaching whereby the applicant's combination would have been obvious. See In re Gorman, 933 F.2d 982, 986, 18 USPQ2d 1885, 1888 (Fed. Cir. 1991).

There is no suggestion or motivation in any of the applied references that would have led one of ordinary skill in the art to modify the seat structure in the Research Disclosure in the manner proposed by the examiner. First, there is no motivation or suggestion to modify the Research Disclosure system with the teachings of Gagnon. The examiner admits that the Research Disclosure does not explicitly disclose the use of weight sensor assemblies in the form of a strain gauge and a plurality of deflectable mounting structures, which together bear the entire weight of the frame.

The Research Disclosure teaches mounting four load cells between two rigid seat components. Specifically, the Research Disclosure discloses mounting load cells between a seat frame and a seat track.

Gagnon also teaches mounting a sensor assembly between two rigid seat structures. Specifically, Gagnon discloses a rigid seat pan member 18 and a rigid member 19 disposed vertically above the seat pan member 18 in a spaced apart and vertically juxtaposed relationship. See column 5, lines 19-22. The sensors 20 are mounted between these two rigid structures 19 and 18. Gagnon describes the sensors 20 as being a strain gauge, a load cell, or a variable

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resistance pressure sensor. The preferred sensor in Gagnon is a load cell having characteristics specified at Col. 5, lines 50-67. There is no disclosure or teaching of strain gauges having more beneficial properties than load cells in Gagnon.

Thus, both the Research Disclosure and Gagnon teach the use of load cells mounted between two rigid seat structures to determine seat occupant weight. The examiner has pointed to no teaching in Gagnon of any particular benefit to be derived from using a strain gauge in place of the load cell in the Research Disclosure, especially since the entire disclosure and all of the drawings are directed to a the preferred embodiment, which utilizes a load cell. In addition, there is nothing in the Research Disclosure, which would have led one of ordinary skill in the art to believe that the Research Disclosure load cell system was in any way deficient for the Research Disclosure system's purposes or was in need of modification.

If one of ordinary skill in the art were to modify the Research Disclosure system with the teachings of Gagnon, the modification would clearly be to utilize the specific load cell mounting configuration taught by Gagnon in place of the Research Disclosure mounting configuration, i.e., mounting the load cells between a seat pan and a rigid seat structure positioned above the seat pan as opposed to mounting load cells at the seat track positioned below the seat pan. One of ordinary skill in the art would have found no reason, suggestion, or incentive for attempting to replace the load cell sensors of the Research Disclosure with strain gauges, as claimed by Applicant, other than through the luxury of hindsight reconstruction performed by someone who first viewed Applicant's disclosure. This is not the proper basis for a rejection under 35 U.S.C. 103(a).

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There also is no motivation or suggestion to modify the Research Disclosure with Harris. The examiner admits that neither the Research Disclosure nor Gagnon teaches the use of sensor having a deflectable portion and strain gage that is incorporated into a seat assembly. The examiner relies on Harris as teaching a resilient mounting structure 40 having deflectable portions for supporting strain gauges.

Harris teaches the use of a steel load block assembly 40 that is mounted between the main vehicle frame 32 and the log support frame 31 above each tractor wheel at 22 and 23. The steel blocks 40 include strain gages that are used to measure the weight of the logs. There is no teaching in Harris of the use of resilient or deflectable portions for strain gages that are incorporated into vehicle seat assemblies. The examiner has pointed to no teaching in Harris of any particular benefit to be derived from this arrangement that could be applied to a vehicle seat structure. In addition, there is nothing in the Research Disclosure that would have led one of ordinary skill in the art to believe that the Research Disclosure's arrangement of mounting load cells between two rigid seat structures was in any way deficient for the Research Disclosure's purposes or was in need of modification.

Further, Gagnon, which the examiner relies upon for teaching the use of strain gauges in a seat application, teaches away from mounting strain gauges to deflectable portions or resilient members. Gagnon teaches the mounting of strain gauges between two rigid seat structures in a manner similar to that of the Research Disclosure.

Any suggestion to modify the Research Disclosure system in the manner proposed by the examiner is found only in a hindsight reconstruction of the claimed invention, with the examiner

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using the applicant's structure as a template and selecting elements from references to fill in the gaps. This is not a proper basis of a rejection under 35 U.S.C. 103.

Finally, even assuming that Harris is analogous art and that sufficient motivation exists to make the modification, the references taken together, do not disclose, suggest, or teach all of the claimed features. Claim 41 requires a plurality of sensors each of which includes a mounting portion for attachment to a vehicle seat structure, and a deflectable portion that deflects in response to a weight force applied to the vehicle seat structure to generate a weight signal. The examiner admits that neither the Research Disclosure nor Gagnon disclose the feature of seat sensor assembly with the deflectable portion that deflects in response to a weight force applied to the seat structure. The examiner argues that Harris teaches this feature, however, Harris does not include any teachings that show a seat sensor with a deflectable portion that deflects in response to an occupant weight force that is applied to a seat structure.

Further, the examiner argues that Harris's steel load block assembly 40 is equivalent to Applicant's claimed "deflectable portions" of a seat sensor having a mounting portion for attachment to a seat structure. While it is well settled that the terms in a claim are to be given their broadest reasonable interpretation, this interpretation must be consistent with the specification, with claim language being read in light of the specification as it would be interpreted by one of ordinary skill in the art. In re Bond, 15 USPQ2d 1566, 1567 (Fed. Cir. 1990). Here, the examiner has improperly expanded the meaning to be given to the claim terms "deflectable portions." Applicant's deflectable portions are clearly shown in Figures 4 and 5 and are described in the accompanying specification. These deflectable portions are part of a sensor assembly that includes strain gages where the sensor assembly is mounted to a seat structure.

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One of ordinary skill in the art simply would not consider the steel blocks of Harris as corresponding to the claimed seat sensors with "deflectable portions," especially as Harris clearly describes the steel blocks as being incorporated into a tractor-trailer structure for measuring the weight of a payload of logs.

Thus, for the many reasons set forth above, the rejection of claims 36-55 under 35 U.S.C. 103(a) based on the combination of the Research Disclosure as modified by Gagnon and Harris is improper and should be withdrawn.

Claims 61-63 and 69-73 stand rejected under 35 U.S.C. 103(a) as being unpatentable over the Research Disclosure in view of Gagnon and further in view of Harris and further in view of Mazur. For the reasons set forth above, Harris is non-analogous art, there is no motivation to modify the Research Disclosure with Harris, and Harris in combination with Gagnon and the Research Disclosure do not disclose, suggest, or teach the features of claims 41 or 49. Mazur also does not disclose, suggest, or teach the deficiencies of Harris and/or Gagnon.

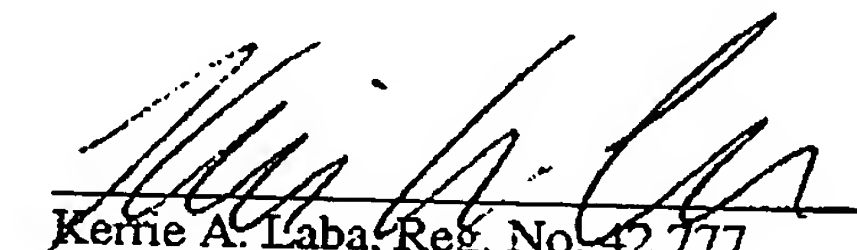
Further, the combination does not teach all of the claimed features. For example, claims 62 and 70 include the feature of sampling the sensors approximately every thirty milliseconds. Mazur does not teach this feature and the examiner has not indicated where in Mazur this feature is taught. Claims 63 and 71 include the feature of determining the weight by computing a biased average of each of the sensors over time and summing all of the biased averages together to obtain a total weight. The examiner does not explain where this feature is taught in Mazur. Finally, there is no explanation of where the features of claims 72 and 73 are shown in Mazur.

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For the reasons set forth above, the rejection of claims 61-63 and 69-73 under 35 U.S.C. 103(a) based on the Research Disclosure 39916 in view of Gagnon, and further in view of Harris, and further in view of Mazur is improper and should be withdrawn.

Applicant believes that all claims are in condition for allowance and respectfully requests an indication of such. It is believed that no additional fees are due, however, the Commissioner is authorized to charge Deposit Account No. 50-1482, in the name of Carlson, Gaskey & Olds, for any additional fees or credit the account for any overpayment.

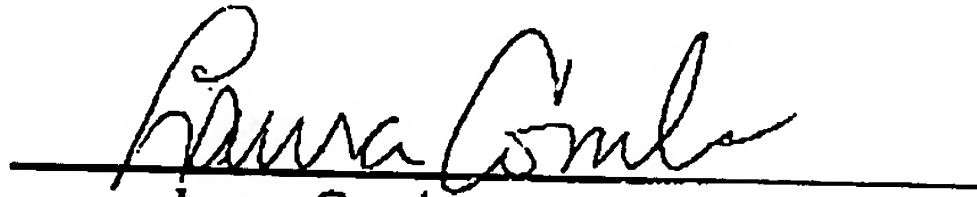
Respectfully submitted,


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CERTIFICATE OF TRANSMISSION UNDER 37 CFR 1.8

I hereby certify that this correspondence is being facsimile transmitted to the United States patent and Trademark Office, fax number (703) 872-9306, on January 30, 2004


Laura Combs

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